

AMENDMENTS TO THE CLAIMS

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Canceled)
12. (Canceled)
13. (Canceled)
14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Canceled)
21. (Canceled)
22. (Canceled)

23. (Currently Amended) A method for modulating endoreduplication in a plant or part thereof, which comprises ~~modifying expression or activity of E2Fa~~ transforming a plant cell with a native or heterologous coding sequence for a plant E2F protein operably linked to a promoter which functions in a plant cell, and regenerating a plant therefrom, wherein the plant E2F protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle and wherein the transformed, regenerated plant exhibits an increase in endoreduplication compared to a corresponding wild type plant.

24. (Currently Amended) The method of Claim 23 ~~further comprising~~ further transforming the plant cell with a native or heterologous coding sequence for a plant ~~modifying expression or activity of DPa~~ DP protein operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom, wherein the plant DP protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle and wherein the transformed, regenerated plant exhibits an increase in endoreduplication compared to a corresponding wild type plant.

25. (Currently Amended) The method of claim 23 wherein E2Fa the plant E2F protein is overexpressed in ~~said~~ the plant or plant part.

26. (Currently Amended) The method of claim 24 wherein the plant E2F and DP proteins ~~E2Fa and DPa~~ are overexpressed in ~~said~~ the plant or plant part.

27. (Currently Amended) A plant having a plant cell which overexpresses stably expresses the product of an E2Fa gene a plant E2F transgene wherein the expressed E2F

protein product forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.

28. (Currently Amended) The plant ~~cell~~ of claim 27 having a plant cell which further ~~overexpresses~~ expresses a product of a ~~DP $\alpha$ -gene~~ plant DP transgene wherein the expressed DP protein product forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.

29. (Currently Amended) The plant ~~cell~~ of claim 27 wherein the ~~E2F $\alpha$ -gene~~ plant E2F transgene is heterologous to the plant ~~cell~~.

30. (Currently Amended) The plant of claim 27 wherein the ~~E2F $\alpha$ -gene~~ plant EF2 transgene is native to the plant ~~cell~~.

31. (Currently Amended) The plant ~~cell~~ of claim 28 selected from the group consisting of a plant having a plant cell which ~~overexpresses~~ expresses the products of a native ~~E2F $\alpha$ -~~ EF2 gene and a native ~~DP $\alpha$~~  DP gene, a plant having a plant cell which expresses the products of a heterologous ~~E2F $\alpha$~~  EF2 gene and a heterologous ~~DP $\alpha$~~  DP gene, a plant having a plant cell which expresses the product of a heterologous ~~E2F $\alpha$~~  EF2 gene and which ~~overexpresses~~ expresses the product of a native ~~DP $\alpha$~~  DP gene, and a plant having a plant cell which ~~overexpresses~~ expresses the product of a native ~~E2F $\alpha$~~  EF2 gene and which expresses the product of a heterologous ~~DP $\alpha$~~  DP gene.

32. (Cancel)

33. (Currently Amended) The plant or a part thereof according to ~~Claim 32~~ any one of claims 27-31 which exhibits modulated endoreduplication when compared to a corresponding wild type plant.

34. (Currently Amended) ~~Progeny~~ Transgenic progeny of the plant of ~~claim 32~~ any one of claims 27-31 wherein the transgenic progeny comprises the transgene of any one of claims 27-31.

35. (Currently Amended) ~~Progeny~~ Transgenic progeny of the plant of claim 33 wherein the transgenic progeny comprise the transgene of any one of claims 27-31.

36. (Currently Amended) Plant material obtained from the ~~plant~~ transgenic progeny of claim ~~[[32]]~~ 34.

37. (Previously Presented) Plant material obtained from the plant of claim 33.

38. (Currently Amended) The plant material of claim ~~[[32]]~~ 36 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.

39. (Currently Amended) The plant material of claim ~~[[33]]~~ 37 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.

Please add the following claims:

40. (New) The method according to claim 26, wherein said plant cell has an increased ploidy level of 64C or 128C compared to a corresponding wild type plant.

41. (New) A transgenic plant which stably expresses an *E2F* transgene or both an *E2F* and *DP* transgene, wherein said transgenic plant cell has an increased ploidy level of 64C or 128C compared to a wild type plant.

42. (New) A method for quadrupling DNA content of a transgenic plant compared to the DNA content of a corresponding wild-type plant, said method comprising introducing an *E2F* transgene or both an *E2F* and *DP* transgene into the plant, wherein the *E2F* and *DP* transgene are operably linked to a promoter which functions in a plant cell and wherein the product of the introduced transgene is stably expressed within the plant cell.

43. (New) A transgenic plant which stably expresses an *E2F* transgene or which express both an *E2F* and *DP* transgene wherein said transgenic plant has quadruple the content of DNA compared to the DNA content of a corresponding wild-type plant .

44. (New) A transgenic plant which stably expresses an *E2F* transgene or which express both an *E2F* and *DP* transgene wherein said transgenic plant has modulated endoreduplication relative to a corresponding wild type plant.

45. (New) A method for modulating endoreduplication in a plant or part thereof which comprises:

(a) transforming a first plant cell with a native or heterologous coding sequence for a plant *E2F* protein wherein the coding sequence is operably linked to a promoter which functions in a plant cell, and regenerating a plant therefrom;

(b) transforming a second plant cell with a native or heterologous coding sequence for a plant *DP* protein, wherein the coding sequence is operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom;

(c) crossing the plant of (a) with the plant of (b); and

(d) selecting progeny of the cross of (c) that exhibit modulated endoreduplication.

46. (New) The method of claim 23 comprising further transforming a cell from the transformed, regenerated plant with a native or heterologous coding sequence for a plant DP protein operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom, wherein the DP protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.